

ABSTRACT

A semiconductor device includes a semiconductor layer, a plurality of semiconductor elements formed on the semiconductor layer, and an isolation film provided in a surface of the semiconductor layer, the semiconductor elements being electrically isolated from each other by the isolation film. The semiconductor device also includes a PN junction portion provided under the isolation film and formed by two semiconductor regions of different conductivity types in the semiconductor layer. The isolation film includes a nitride film provided in a position corresponding to a top of the PN junction portion and has a substantially uniform thickness across the two semiconductor regions and an upper oxide film and a lower oxide film which are provided in upper and lower portions of the nitride film. The surface of the semiconductor layer is silicidized in such a state that a surface of the isolation film is exposed.